CLAIMS

1. Optical-fiber device comprising at least one component (11) integrated into the fiber (10), and a support assembly on which the fiber (10) is fixed at two points (1322, 1332) situated respectively on either side of the integrated component (11), which support comprises at least two elements (120, 130, 132) possessing different thermal-expansion coefficients which are arranged functionally in series between the two points of fixing of the fiber, characterized in that the interface (131, 133) between the two elements (120, 130, 132) possessing different thermal-expansion coefficients is at least substantially perpendicular to the axis of the fiber (10), and in that the means for support of the optical fiber (10) comprise a support assembly consisting of three pieces (130, 120 and 132) arranged in series, in a Z-shaped geometry.

2. Device according to Claim 1, characterized in that the component (11) integrated into the fiber (10) is formed by a Bragg grating.

3. Device according to Claim 1, characterized in that the support assembly comprises a beam (120) and two studs (130, 132) which rest on the extremities of the beam (120), the fiber (10) in which is implanted a component (11) such as a Bragg grating being fixed, respectively on either side of the component (11), on the studs (130, 132), the interface surfaces between the studs (130, 132) and the beam (120), extending at least substantially perpendicular to the axis of the fiber (10).

4. Device according to Claim 3, characterized in that the beam (120) on the one hand and, on the other hand, each stud (130, 132), are produced from materials featuring different thermal-expansion coefficients.

5. Device according to Claim 4, characterized in that the beam (120) is formed from a material with a low expansion coefficient, while each stud (130, 132)

is produced from material(s) with a high thermal-expansion coefficient.

6. Device according to Claim 4, characterized in that the beam (120) is produced from a material with a high expansion coefficient while each stud (130, 132) is produced from material with a low thermal-expansion coefficient.

7. Device according to Claim 4, characterized in that the material with a high thermal-expansion coefficient is formed from aluminum, while the material with a low thermal-expansion coefficient is made of invar.

8. Device according to Claim 1, characterized in that two lateral pieces (130, 132) are fixed respectively onto opposite extremities of an intermediate beam (120), the lateral elements (130, 132) extend, from their region of linking (131, 133) onto the intermediate beam (120) toward the opposite extremity thereof.

9. Device according to Claim 8, characterized in that the intermediate element (120) exhibits a high thermal-expansion coefficient, while the two lateral elements (131, 132), on the free extremities of which the optical fiber (10) is fixed by any appropriate means, for example by bonding, feature a lower thermal-expansion coefficient.

10. Device according to Claim 8, characterized in that the sum of the lengths of the two lateral elements (130 and 132), considered between their region (131, 133) of fixing onto the intermediate element (120) and the regions of respective fixing of the optical fiber (10), is greater than the length of the intermediate beam (120) considered between its two fixing regions (131 and 133).

11. Device according to Claim 8, characterized in that at least one of the lateral elements (130, 132) exhibits, at its extremity, a fixing block which is offset laterally with respect to the average longitudinal direction of the element which carries it, so as to

come closer to the axis of the assembly and thus to support the optical fiber (10).

12. Device according to Claim 8, characterized in that at least one of the lateral elements (130 and 132) has a generally U-shaped structure framing the central beam (120), in such a way that the resultant of the traction forces exerted on this element by the optical fiber (10) are situated along the axis of the layout.

13. Device according to Claim 1, characterized in that at least some of the elements include through-passages for accommodating the optical fiber (10).

14. Device according to Claim 8, characterized in that at least some of the lateral elements (130, 132) possess, on their free extremities, longitudinal grooves (1332, 1322) situated along the axis of the layout, for accommodating the optical fiber (10).

15. Device according to Claim 1, characterized in that the support assembly (120, 130) has a cylindrical configuration.

16. Device according to Claim 1, characterized in that it comprises means for adjusting the distance separating two points (1322, 1332) for anchoring the fiber (10) onto the support assembly (120, 130).

17. Device according to Claim 16, characterized in that the adjusting means work by deformation, preferably by bending, of the body (120).

18. Device according to Claim 17, characterized in that the adjusting means comprise a screw transverse to the axis of the fiber (10).

19. Device according to Claim 16, characterized in that the adjusting means work by relative offsetting of means (120, 130) serving as points (112, 114) for fixing the fiber (10), in a direction overall transverse to the axis thereof.

20. Device according to Claim 19, characterized in that the offset is applied along two orthogonal directions.

21. Device according to Claim 16, characterized in that the adjusting means work by axial mechanical deformation of a support body (120).

22. Device according to Claim 21, characterized in that the adjusting means work by traction on the support body (120).

23. Device according to Claim 21, characterized in that the adjusting means work by compression on the support body (120).